

Before discussing these amendments in detail, it may be appropriate to summarize briefly some of the background of this application.

A Petition ("the Acuson Petition") has been filed requesting that the Patent Office institute a public use proceeding in this case. The Petition was accompanied by three videotapes and six Declarations ("the Acuson Declarations") relating to two alleged public uses. In a Memorandum dated November 6, 1998, the Examiner indicated that he had considered the submitted materials and determined that "a prima facie case of prior public use of the invention which is claimed in this application has been made."

After being notified of this decision, Applicant submitted a formal Request for reconsideration of the Examiner's determination. In addition, after the Examiner's decision, the Patent Office held a hearing, on September 9, 1999, to determine whether public use proceedings should be instituted. At that hearing, Applicant also argued that the Examiner's determination of a prima facie case of prior public use, should be reconsidered or reviewed before any public use proceeding is begun.

Applicant has not received any Notification from the Patent Office about whether the Examiner will reconsider that

determination. Applicant's Attorneys have, however, carefully reviewed the present application and the Acuson Declarations, and in an effort to expedite prosecution of this application, Claims 2 and 13 are being amended to distinguish even further over the facts alleged in those Declarations. In making these amendments, Applicant's Attorneys have taken care to avoid adding any new material.

In particular, claims 2 and 13 are being amended to include the limitation that the input transmitted ultrasonic signal has negligible energy in the second harmonic bandwidth of the fundamental frequency. Express support for this limitation is provided in the specification at page 2, lines 27-29. Other editorial changes are being made to Claims 2 and 13 to improve the form and readability of the claims.

As discussed in Applicant's earlier Request for Reconsideration, the Acuson Petition and the accompanying materials identify two alleged public use circumstances, both of which involve the showing of videotapes of recorded ultrasonic images of animal tissue. According to the submitted Declarations, these videotapes show ultrasonic images made using a modified ultrasound scanning system referred to as the Acuson Serial Number 1122. This modified system was used to perform echocardiographic studies using a fundamental transmit

center nominal frequency of 2.5 MHz and a harmonic receive center nominal frequency of 5.0 MHz.

This system was designed to perform these studies in the presence of harmonic inducing contrast agent. It is alleged, though, that, in the course of this use, baseline or initial cardiographic images were obtained in the absence of contrast agent. It is further alleged that the videotapes include images generated at least in part from the second harmonic response of the tissue to the transmitted ultrasound wave.

There is no allegation in the Acuson Declarations that the input ultrasonic signal had negligible energy in the second harmonic bandwidth. In fact, those Declarations indicate otherwise -- that the input signal had at least an appreciable amount of energy in that second harmonic. In particular, in paragraph 7 of the Chandler Declaration, Mr. Chandler states that his purpose for running the experiments shown on the tape "was to determine whether the second harmonic signals generated by the contrast agents could be seen above the signals at the second harmonic frequency known to be generated from the transmit pulse, the system nonlinearities, and the nonlinearities of the propagation path of the pulse through tissue (emphasis added)."

For reasons discussed in detail in Applicant's Request for Reconsideration, in order that the alleged Acuson public uses anticipate Claims 2 or 13, it must be demonstrated that the necessary and only reasonable interpretation of the Acuson System 1112, or the manner in which it was used to form any image, is that the Acuson system duplicated the method of Claim 2 or the system of Claim 13.

Important distinctions between Claims 2 and 13 and the description of the Acuson system 1122 were discussed in Applicant's earlier Request for Reconsideration. In addition to those important distinctions, it cannot be concluded from the facts alleged in the Acuson Declarations that the necessary and only reasonable interpretation of the operation of the Acuson System 1112 is that the input ultrasonic signal had negligible energy in the second harmonic bandwidth.

There are numerous other reasonable interpretations of the input ultrasonic signal employed with the Acuson system. For example, one very appropriate interpretation is that this input signal had at least appreciable energy in the second harmonic bandwidth. Another reasonable interpretation is that the input signal had significant energy in the second harmonic, and indeed that this energy was significant enough to raise concerns that it might interfere with the Acuson

procedure or even might prevent that procedure from being successful.

With respect to the issue of obviousness, it is important to note that the Acuson Declarations do not discuss in detail the full nature of the input signal. Because of this, it cannot be concluded that it would have been obvious, or even possible, to modify that input signal so as to have negligible energy in the second harmonic bandwidth while still achieving the objectives that the Acuson system was designed and operated to attain. Consequently, it cannot be said that it would have been obvious to one of ordinary skill in the art to modify the Acuson System 1122 to use an input signal having negligible energy in the second harmonic bandwidth.

For the reasons discussed above, the Acuson Petition and the supporting materials do not show, even prima facie, that the Acuson system or the manner in which it was used anticipates or renders obvious Claims 2 or 13. Claims 3-7 and 29-32 are dependent from Claim 2 and are distinguishable therewith over the Acuson materials. Similarly, Claims 14-18 and 33-36 are dependent from Claim 13 and are distinguishable therewith over the Acuson materials.

For the foregoing reasons, and the reasons advanced in Applicant's Request for Reconsideration, the Examiner is

respectfully requested to reconsider and to withdraw the earlier determination that a prima facie case of prior public use has been established. If the Examiner believes that a telephone conference with Applicant's Attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,

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